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EXAMINER

ALI, SYED J

ART UNIT PAPER NUMBER

2195

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/853,823	Applicant(s) LONG ET AL.	
	Examiner Syed J. Ali	Art Unit 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2005.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-18 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>Oct. 28, 2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed November 3, 2005. Claims 1-18 are presented for examination.

2. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Response to Amendment

3. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. Examiner apologizes for the oversight in making the previous rejection improperly final.

Specification

4. The cross reference related to the application cited in the specification must be updated (i.e. update the relevant status, with PTO serial numbers or patent numbers where appropriate, on page 2, lines 3-13, 19-24). The entire specification should be so revised.

Claim Rejections - 35 USC § 102

5. **Claims 1-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Rich et al. (USPN 6,457,065) (hereinafter Rich).**

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6. As per claim 1, Rich teaches the invention as claimed, including a method for performing operations in an electronic file system, the method comprising the steps of:

receiving a command to perform one or more file system operations (col. 7 lines 56-59; col. 17 lines 51-57; col. 19 lines 30-33; col. 21 lines 51-55);

in response to said command, performing a plurality of operations including said one or more file system operations (col. 7 lines 56-59; col. 17 lines 51-57; col. 19 lines 30-33; col. 21 lines 51-55);

wherein the step of performing the plurality of operations includes:

performing a first subset of said plurality of operations as part of a first transaction (col. 7 line 53 - col. 8 line 18; col. 8 line 63 - col. 9 line 40); and

performing a second subset of said plurality of operations as part of a second transaction that is nested in said first transaction (col. 7 line 53 - col. 8 line 18; col. 8 line 63 - col. 9 line 40);

wherein each of said one or more file system operations is included in at least one of the first subset of said plurality of operations and the second subset of said plurality of operations (col. 8 lines 47-55; col. 9 lines 3-12; col. 21 lines 51-55).

7. As per claim 2, Rich teaches the invention as claimed, including the method of claim 1 wherein the step of performing the plurality of operations further includes the step of performing a third subset of said plurality of operations as part of a third transaction that is nested in said second transaction (col. 7 line 53 - col. 8 line 18; col. 8 line 63 - col. 9 line 40).

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8. As per claim 3, Rich teaches the invention as claimed, including the method of claim 1 wherein the second subset of operations are operations that are triggered by an operation that belongs to said first subset of operations (col. 8 line 63 - col. 9 line 40; col. 10 line 42 - col. 11 line 14).

9. As per claim 4, Rich teaches the invention as claimed, including the method of claim 1 wherein:

the step of receiving the command is performed by an entity that resides external to a database server (col. 7 line 53 - col. 8 line 18; col. 11 lines 21-35; col. 17 lines 51-55); and

the step of performing said plurality of operations includes said entity sending database commands to said database server (col. 7 line 53 - col. 8 line 18; col. 11 lines 21-35; col. 17 lines 51-55; col. 21 lines 51-55).

10. As per claim 5, Rich teaches the invention as claimed, including the method of claim 4 wherein the step of performing said second subset includes:

the entity sending to the database server a savepoint command for the database server to establish a savepoint (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41); and

after the entity sends to the database server a savepoint command, the entity sending to the database server commands for performing said second subset of said plurality of operations (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41).

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11. As per claim 6, Rich teaches the invention as claimed, including the method of claim 5 further comprising the entity responding to a failure of an operation in said second subset by sending to the database server a command to roll back to said savepoint (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41).

12. As per claim 7, Rich teaches the invention as claimed, including the method of claim 4 further comprising the entity maintaining a transaction list by performing the steps of:

adding an entry to the tail of the transaction list when the entity sends a savepoint command to the database server to start a nested transaction (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41); and

when an operation fails, determining the savepoint to roll back to based on the entry at the tail of the transaction list (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41); and

removing the entry from the tail of the transaction list when the nested transaction fails or completes successfully (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41).

13. As per claim 8, Rich teaches the invention as claimed, including the method of claim 3 wherein:

the one or more file system operations include an operation on a folder (col. 9 line 41 - col. 10 line 41); and

the second subset of operations includes operations associated with one or more documents within the folder (col. 9 line 41 - col. 10 line 41).

14. As per claim 9, Rich teaches the invention as claimed, including the method of claim 4 further comprising the steps of:

the entity determining whether all operations that are to be performed as a nested transaction are read only (col. 13 lines 4-28; col. 15 lines 1-46; col. 16 line 56 - col. 17 line 3);

if all operations that are to be performed as the nested transaction are read only, then sending commands to perform the operations without first sending a command to establish a savepoint (col. 13 lines 4-28; col. 15 lines 1-46; col. 16 line 56 - col. 17 line 3); and

if all operations that are to be performed as the nested transaction are not read only, then sending a command to establish a savepoint prior to sending commands to perform the operations (col. 13 lines 4-28; col. 15 lines 1-46; col. 16 line 56 - col. 17 line 3).

15. As per claims 10-18, Rich teaches the invention as claimed, including a computer-readable medium carrying instructions for performing the method of claims 1-9, respectively (col. 5 lines 28-58).

Response to Arguments

16. **Applicants' arguments filed November 3, 2005 have been fully considered but they are not persuasive.**

17. Applicants agree, "*Rich does not describe, either explicitly or implicitly, that one or more file system operations are performed as part of nested transactions.*" As support for this

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argument, Applicants contend that Rich makes a distinction between operations that update objects and operations that copy updated objects to a persistent store. The latter, involving file system operations to make the changes permanent, are alleged as not being part of any transactions.

18. Applicants characterization of Rich is erroneous; a passage of Rich is identified with emphasis being placed upon portions of the passage that support Applicants argument, while ignoring the intervening language that points out the logical fallacy of the argument (See page 6 of Applicants' arguments). It is well settled that the prior art must be considered as a whole. *See Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5 (Fed. Cir. 1986). ("The references must be considered as a whole").

In Rich, "a transaction represents a logical group of changes to one or more objects that will be performed in an atomic manner." (Rich, col. 7 lines 55-58). This approach to transactions is well known in the art. A transaction either commits its entire set of operations, or the entire transaction is discarded. The atomic nature of a transaction necessitates that "either all operations within the transaction are performed, or none of them are performed." (Rich, col. 7 lines 58-59). Rich teaches a transaction being committed at the user's choice, i.e. the user either decides to commit the changes encompassed by the transaction or discards them. (Rich, col. 8 lines 4-6). The scope of a transaction in Rich goes beyond what Applicants allege. A transaction "first" makes changes to an internal copy, and secondly, those changes are committed to the persistent store at the user's discretion. The entirety of the update is a transaction. Rich explicitly states that under the transactional approach, either the entire transaction is performed (including the commit) or none of it is performed (the changes are rolled back). When viewed in

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this manner, it is clear that Applicants have overlooked the sentences in the passage that indicate that the commit operations are unquestionably within the scope of the transaction.

19. In an argument related to Applicants contention stated above in paragraph 16, it is alleged that the nested approach of Rich precludes a commit operation being part of a nested transaction. The basis of this argument is that changes committed in child transactions (analogous to nested transactions) are not actually written to the persistent store until the parent transaction commits. Applicants allege that this means that *“any operations that write to persistent store CANNOT possibly be performed as part of the nested transactions.”*

20. Applicants' argument is a non sequitur that does not account for the “scope of a transaction” as a whole. (See Rich, col. 7 line 66 - col. 8 line 4). When the parent transaction spawns a child (nested) transaction, the child transaction becomes a part of the parent transaction. Since a transaction is performed atomically, it makes sense that the child transaction cannot commit, i.e. finalize, its operations until all the transactions that are higher in the hierarchy have also committed.

Examiner notes the intended effect of Applicants' argument, but submits that it rests on a premise that is unsupported by the claim language. Essentially, Applicants contend that each transaction commits, i.e. performs file system operations, independently of the transaction that it is nested within. It is conceded that this is outside the scope of Rich. The nested file system operations of Rich, though arguably within the scope of the nested transaction, are not actually committed until all parent transactions are committed. However, a close reading of Applicants' claim indicates that Rich teaches the invention as claimed. In Applicants' claim 1, it is recited

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that “each of said one or more file system operations is included in **at least one of** the first subset of the plurality of operations and the second subset of said plurality of operations.”

For the sake of argument, it is assumed that all file system operations in Rich are performed as part of the top-most transaction, i.e. the “first subset of the plurality of operations.” (though Examiner maintains that the commits of nested transactions are properly considered within the scope of the nested transactions, not the parent). Under this assumption, Rich teaches the file system operations being included within the first subset of the plurality of operations, which is what the claim requires. It appears that “at least one of” is read out of the claim in Applicants’ arguments.

21. Applicants identify the portion of Rich discussing a file system and how a file system fits within the context of a persistent store and database. Since Rich throughout discusses transaction in relation to committing updates to a persistent store, Examiner has relied upon this teaching to show how file system operations are within the contemplation of the database operations and persistent store operations discussed throughout. In fact, Rich has stated that the more general term of “persistent store” is used “for ease of reference.” (col. 21 lines 51-55). Applicants attack Examiner’s reliance on this passage with the following argument:

In fact, this passage from RICH is the ONLY place where RICH discusses file systems. It seems that the Office Action relies exclusively on this passage and this passage alone to bootstrap ALL its other assertions regarding the file system operations featured in Claims 1 and 10. It is respectfully submitted that in the

context of the RICH disclosure, this passage is NOT sufficient on its own to support the assertions that the Office Action uses in rejecting Claims 1 and 10.

22. Applicants' sole contention in this argument is that a single sentence in the reference is insufficient to support a broader argument that a transaction, including committing an update to a persistent store, encompasses file system operations. Applicants provide no support for this argument, which directly contradicts settled law requiring the prior art be considered as a whole. *See Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5 (Fed. Cir. 1986). ("The references must be considered as a whole"). Since this argument is contrary to settled principles of patent law, it is dismissed. Applicants have failed to demonstrate why the updating of a persistent store fails to contemplate a file system, especially in view of the explicit provision of a file system as an example of a persistent store.

23. Applicants argue, "*Rich does not describe, either explicitly or implicitly, the feature of Claims 1 and 10 of receiving a command to perform one or more file system operations.*" The entirety of Applicants' support for this argument derives from the previous allegation that "*the operations in RICH that write to the permanent store are not part of any transactions.*" It has already been shown that this characterization of the transaction in Rich is erroneous (See paragraph 18 above). Accordingly, the argument is dismissed in view of the discussion above.

24. Applicants argue, "*Rich does not describe the...features of Claims 8 and 17.*" Applicants contend that the cited passage fails to contemplate a file system operation on a folder or documents associated with a folder.

25. First, it is submitted that one of ordinary skill in the art would recognize that file systems are inherently organized in folders in a hierarchical fashion, i.e. file systems are always organized in this fashion. It is recognized that Applicants may not agree with Examiner's assertion of inherency; accordingly, supporting evidence has been provided (See Dourish, "Extending Document Management Systems with User-Specific Active Properties" at page 141, "File systems...impose a hierarchical structure of folders onto which users map their own semantic structures."). The Dourish publication was available at the time of Applicants filing date.

The cited passage of Rich shows how the parent-child transactional approach may perform operations on objects that are organized in a hierarchical fashion. When considered in the context of a file system, this data will be organized by folder. For example, the object model is organized by Division at the highest level, with multiple Departments underlying the separate Divisions, and each Department including one Manager and one or more Employees. (Rich, col. 10 lines 6-9). In a file system, the Employees and Manager would be separate folders within a Department, and each Department would be a separate folder within a Division. All this is well known in the art and inherently taught by way of indicating that file systems are supported. Folders are the chosen organization of file systems. (See Dourish at 141).

Conclusion

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J. Ali whose telephone number is (571) 272-3769. The examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai T. An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Syed Ali
November 16, 2005

